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EXAMINER

NGUYEN, DUSTIN

ART UNIT PAPER NUMBER

2154

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/923,221		ZHAO ET AL.	
	Examiner		Art Unit	
	Dustin Nguyen		2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-32 are presented for examination.

Response to Arguments

2. Applicant's arguments, see Pre-Appeal Brief, filed 08/31/2005, with respect to the rejection(s) of claim(s) 1-32 under Welin have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Fahmi et al. [US Patent No 6,108,303] and Pasternak et al. [US Patent No 6,157,614].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fahmi et al. [US Patent No 6,108,303], in view of Pasternak et al. [US Patent No 6,157,614].

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5. As per claim 1, Fahmi discloses the invention substantially as claimed including a network device comprising:

a timer configured to provide a timer value to said cell processing unit [i.e. measure a time of arriving for cell] [Figure 11; col 3, lines 48-49; and col 7, lines 36-39]; and

a memory coupled to said cell processing unit and configured to store [98, Figure 11; and col 12, lines 5-7 and lines 20-22] one or more policy parameters [i.e. TAT, I and L] [col 3, lines 19-33; and col 12, lines 20-24] and rollover data for each of the communication channels [Figure 6; and col 7, lines 22-47], wherein the rollover data comprises an indication of a rollover relationship between the timer value and one of the policing parameters for each of the communication channels [Figure 7; and col 7, lines 47-col 8, lines 27];

wherein for each received incoming data cell, said cell processing unit is configured to assign an arrival from the timer value and compare the received incoming data cell's arrival time to the one or more policing parameters for the received incoming data cell's communication channel to determine if the received incoming data cell is conforming or non-conforming to a rate for the communication channel [i.e. compare TAT with arriving time] [Figures 1 and 2; col 3, lines 9-19; and col 4, lines 22-39], wherein said cell processing unit is configured to access the rollover data for the received incoming data cell's communication channel to account for the rollover relationship when comparing the arrival time to the one or more policing parameters [154, Figure 12; and col 13, lines 10-47].

Fahmi does not specifically disclose

a cell processing unite configured to receive incoming data cells from a network for a plurality of communication channels.

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Pasternak discloses

a cell processing unite configured to receive incoming data cells from a network for a plurality of communication channels [Figures 18 and 19; and col 14, lines 66-col 15, lines 25].

It would have been obvious to a persons skill in the art at the time the invention was made to combine the teaching of Fahmi and Pasternak because Pasternak's teaching of plurality of communication channels would allow to provide multiple services to end users.

6. As per claim 2, Fahmi discloses wherein said timer is configured to increment the timer value at a predetermined frequency [i.e. clocked at 100 MHz] [col 7, lines 8-20], wherein the timer value rolls over to zero and continues incrementing upon reaching a maximum timer value [col 6, lines 18-41; and col 7, lines 14-17], and wherein the one or more policing parameters comprise a theoretical arrival time [col 2, lines 33-35], wherein said theoretical arrival time rolls over upon being incremented past a maximum value [col 7, lines 14-18] and wherein the rollover data is configured to indicate for each communication channel whether or not the timer value and theoretical arrival time are in the same rollover phase [i.e. same rollover domain] [col 7, lines 36-46].

7. As per claim 3, Fahmi discloses a timer rollover phase indicator configured to indicate a current rollover phase of the timer value [i.e. flags] [col 7, lines 24-28 and lines 53-67]; and wherein said cell processing unit is configured to access said memory to perform an update of the rollover data for each communication channel at least once per rollover phase of the timer value [col 5, lines 1-8; and col 7, lines 41-47].

8. As per claim 4, Fahmi discloses wherein for each communication channel the rollover data is further configured to indicate the rollover phase of the timer value the last time the rollover data was updated [44, Figure 6; and col 7, lines 36-47], wherein to perform the update of the rollover data for each communication channel the cell processing unit is configured to:

compare the current rollover phase of the timer value to the rollover phase of the timer the last time the rollover data was updated;

if the current rollover phase of the timer value is different than the rollover phase of the timer the last time the rollover data was updated, the cell processing unit is configured to:

update the rollover data to indicate if the theoretical arrival time is ahead, behind, or in the same rollover phase as the timer value; and

update the rollover data to indicate the current timer value rollover phase as the rollover phase of the timer value the last time the rollover data was updated [i.e. update algorithm] [Figure 10; col 10, lines 66-col 11, lines 27] .

9. As per claim 5, Fahmi discloses wherein the timer rollover phase indicator comprises a global register bit configured to be toggled each time the timer value rolls over [col 3, lines 35-47]; and wherein for each communication channel, the rollover data comprises two bits encoded to indicate that the theoretical arrival time value for the communication channel is ahead, behind or in the same rollover phase as the timer value [i.e. greater, less than or equal] [col 3, lines 47-col 4, lines 7]; and third bit configured to indicate the rollover phase of the timer value the last time the rollover data was updated [col 5, lines 1-8].

10. As per claim 6, Fahmi does not specifically disclose wherein said memory is further configured to store operations and maintenance data indicating connection availability information for each communication channel, the network device further comprising:

wherein said cell processing unit is configured to perform a scanning function to scan the operations and maintenance data for the plurality of communication channels at least once per rollover phase of the timer value; and

wherein said cell processing unit is configured to access said memory to perform the update of the rollover data for each communication channel as part of said scanning function.

Pasternak discloses

wherein said memory is further configured to store operations and maintenance data indicating connection availability information for each communication channel [i.e. OAM] [col 3, lines 33-47; and col 14, lines 30-39], the network device further comprising:

wherein said cell processing unit is configured to perform a scanning function to scan the operations and maintenance data for the plurality of communication channels at least once per rollover phase of the timer value [i.e. examine OAM cell] [col 15, lines 26-39]; and

wherein said cell processing unit is configured to access said memory to perform the update of the rollover data for each communication channel as part of said scanning function [col 4, lines 53-col 5, lines 4].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Fahmi and Pasternak because Pasternak's teaching of OAM cell would allow to monitor the status of the system to prevent system corruption.

11. As per claim 7, Pasternak discloses wherein said cell processing unit is configured to perform said scanning function more frequently than once per roll over phase of the timer value [i.e. scan periodic] [col 4, lines 61-67], the network device further comprising:

a timer rollover indicator configured to be set when the timer value rolls over [];

wherein said cell processing unit is configured to check the timer rollover indicator upon initiating the scanning function, wherein if the timer rollover indicator is set, the cell processing unit is configured to perform the update of the rollover data as the operations and maintenance data for each communication channel is scanned, and wherein if the timer rollover indicator is not set, the cell processing unit is configured to perform the scanning function without performing the update of the rollover data [col 3, lines 1-27]; and

wherein the timer rollover indicator is cleared completing a scan in which the update of the rollover data is performed for each communication channel [col 4, lines 61-col 5, lines 4].

12. As per claim 8, it is rejected for similar reasons as stated above in claim 4.

13. As per claim 9, Fahmi discloses

a timer rollover phase indicator configured to indicate a current rollover phase of the timer value [col 5, lines 56-col 6, lines 5];

wherein for each communication channel the rollover data is further configured to indicate the rollover phase of the timer value the last time the rollover data was updated; wherein for each received incoming data cell, before comparing the arrival time to the theoretical arrival

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time for the received incoming data cell's communication channel said cell processing unit is configured to compare the current rollover phase of the timer value to the rollover phase of the timer the last time the rollover data was updated, and if the current rollover phase of the timer value is different than the rollover phase of the timer the last time the rollover data was updated, update the rollover data in said memory for the received incoming data cell's communication channel [Figure 10; and col 10, lines 66-col 11, lines 27].

14. As per claim 10, Fahmi discloses wherein said cell processing unit is further configured to perform an update function at least once per rollover phase of the timer value, wherein the rollover data for each communication channel is updated by the update function if the current rollover phase of the timer value is different than the rollover phase of the timer the last time the rollover data was updated [col 6, lines 18-41].

15. As per claim 11, Fahmi discloses wherein for each communication channel, the rollover data comprises: a bit R, wherein R is set to indicate that the theoretical arrival time value for the communication channel is ahead of the timer value in rollover phase; a bit B, wherein B is set to indicate that the theoretical arrival time value for the communication channel is behind the timer value in rollover phase, wherein R and B are both cleared to indicate that the theoretical arrival time value for the communication channel and the timer value are in the same rollover phase; and a bit V, wherein V indicates the rollover phase of the timer value the last time the rollover data was updated [Figure 7; col 7, lines 48-col 8, lines 27].

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16. As per claim 12, Fahmi discloses wherein the one or more policing parameters further comprise a limit value [i.e. limit parameter L] [col 3, lines 19-34], wherein for each received incoming data cell, the cell processing unit is configured to compare the received incoming data cell's arrival time to the one or more policing parameters by accessing the rollover data and policing parameters for the received incoming data cell's communication channel, wherein the received incoming data cell is conforming if: R is set and the cell's arrival time is greater than or equal to the theoretical arrival time minus the limit value, taking into account that the theoretical arrival time is ahead of the cell's arrival time in rollover phase; or R is not set and B is set; or R and B are both not set and the cell's arrival time is greater than or equal to the theoretical arrival time minus the limit value [Figure 13; and col 13, lines 47-col 14, lines 14].

17. As per claim 13, Fahmi discloses wherein the received incoming data cell is non-conforming if: R is set and the cell's arrival time is less than the theoretical arrival time minus the limit value, taking into account that the theoretical arrival time is ahead of the cell's arrival time in rollover phase; or R and B are both not set and the cell's arrival time is less than the theoretical arrival time minus the limit value [Figures 1, 2 and 13; and col 13, lines 47-col 14, lines 14].

18. As per claim 14, Fahmi discloses wherein the one or more policing parameters further comprise an increment value [i.e. incremental parameter I] [col 3, lines 19-34], wherein for each received incoming data cell, said cell processing unit is configured to increment the theoretical arrival time for the received incoming data cell's communication channel after determining that the cell is conforming, wherein if the cell is conforming the theoretical arrival

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time is set to: the current theoretical arrival time plus the increment value if R is set or if R is not set and the cell's arrival time is less than the current theoretical arrival time; or the cell's arrival time plus the increment value if R is not set and the cell's arrival time is greater than or equal to the current theoretical arrival time [col 4, lines 22-39].

19. As per claim 15, Fahmi discloses wherein said cell processing unit is further configured to update the rollover data if the theoretical arrival time for one of the communication channels is incremented past its maximum value so that it rolls over, wherein B is cleared if B was set when the theoretical arrival time rolled over, and R is set if B was not set when the theoretical arrival time rolled over [col 7, lines 36-col 8, lines 27].

20. As per claim 16, Fahmi does not specifically disclose wherein the network device is configured as an Asynchronous Transfer Mode (ATM) switch for the plurality of communication channels, wherein each communication channel is an ATM virtual channel. Pasternak discloses wherein the network device is configured as an Asynchronous Transfer Mode (ATM) switch for the plurality of communication channels [Figures 18 and 19; and col 14, lines 66-col 15, lines 25], wherein each communication channel is an ATM virtual channel [col 2, lines 52-55]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Fahmi and Pasternak because Pasternak's teaching would allow to provide different quality of services to multiple users by using different communication channels.

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21. As per claims 17-32, they are method claimed of claims 1-16, they are rejected for similar reasons as stated above in claims 1-16.

22. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Follansbee John can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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